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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,471	11/05/2003	Bong-Hwoan Choi	1793.1057	7756

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EXAMINER	
PATEL, GAUTAM	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/700,471	CHOI, BONG-HWOAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gautam R. Patel	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/9/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-24 are pending for the examination.

#### Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119(a)-(d), which papers have been placed of record in the file.

#### Drawings/Objection

3. The drawings are objected for following reasons:

The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature/steps of the invention specified in the claims.

Therefore, the steps “ positioning a pickup unit, radiating light on the optical disc, moving the pickup unit away, measuring a time T1, positioning the pickup at a second predetermined location, radiating light on the optical disc at the second predetermined location, measuring a time T2, comparing the tilt degree, rotating the pickup unit, determining the pickup angle, and adjusting the pickup angle based upon a current location based on minimum jitter” must be shown or the features cancelled from the claims.

#### **No new matter should be entered.**

Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of following:

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment, and may be ***accompanied by a marked-up copy of one or more of the figures being amended, with annotations***. Any replacement drawing sheet ***must be identified in the top margin as “Replacement Sheet”*** and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. ***Any marked-up (annotated) copy showing changes must be labeled “Annotated Marked-up Drawings” and accompany the replacement sheet in the amendment (e.g., as an appendix).***

a proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Correction may not be held in abeyance.

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Correction are required.

### **Claim Rejections - 35 U.S.C. § 112**

4. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

“radiation light on .....” required by the claims is not described in the specification. It is assumed some type of typographical error was made it is not clear what is being meant by “.....”. Accordingly, the specification does not explain to one of ordinary skill in the art at the time of the invention, how to make and or use the invention comprising the claimed “radiation light on .....”.

5. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10, line 4 is confusing and unclear. It is not clear what is meant by “.....”, after the radiation light on. It seems sentence is left in the middle of some completion.

NOTE: Typographical error is assumed.

### **Specification**

6. The disclosure is objected for following reasons.

The title of the invention is neither precise nor descriptive. A new title is required which should include, using twenty words or fewer, claimed features that differentiate the invention from the Prior Art. It is recommended that the title should reflect the gist of or the improvement of the present invention.

Correction is required.

### **Claim Rejections - 35 U.S.C. § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if

the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 9, 11-15, 19, 21 and 24 are rejected under 35 U.S.C. § 102(e) as being anticipated by Park et al., US. patent 6,714,496 (hereafter Park).

As to claim 1, Park discloses the invention as claimed [see Figs. 1] including positioning a pickup unit, radiating light on the optical disc, moving the pickup unit away, measuring a time T1, positioning the pickup at a second predetermined location, radiating light on the optical disc at the second predetermined location, measuring a time T2, and comparing the tilt degree, comprising the steps of:

- positioning a pickup unit at a first predetermined location on an inner circumference of an optical disc;

- radiating light on the optical disc at the first predetermined location;

- moving the pickup unit away from the optical disc; moving the pickup unit towards the optical disc;

- measuring a time T1 at which a first focus error signal, generated when light is reflected from a recording layer of the optical disc, is output;

- positioning the pickup at a second predetermined location on an outer circumference of the optical disc;

- radiating light on the optical disc at the second predetermined location; moving the pickup unit away from the optical disc; moving the pickup unit towards the optical disc;

- measuring a time T2 at which a second focus error signal, generated when light is reflected from the recording layer of the optical disc, is output; determining a tilt degree indicating value T, using the measured times T1 and T2; and

- comparing the tilt degree indicating value T with a predetermined reference value R to determine if the optical disc is the tilted disc [col. 2, line 64 to col. 3, line 62; fig. 1].

8. The aforementioned claim 2, recites the following steps, inter alia, disclosed in Park:

- the time T1 is a time interval from a predetermined reference time to a time when the first focus error signal is output, and the time T2 is a time interval from the predetermined reference time to a time when the second focus error signal is output [col. 2, line 64 to col. 3, line 62].

9. The aforementioned claim 3, recites the following steps, inter alia, disclosed in Park:  
the tilt degree indicating value  $T$  is obtained by the following equation:  $T = |T_2 - T_1|$  [step S30; fig. 1] [col. 3, lines 12-16].

10. The aforementioned claim 4, recites the following steps, inter alia, disclosed in Park:  
if the tilt degree indicating value  $T$  is greater than the predetermined reference value  $R$ ,  
the optical disc is determined to be tilted [col. 2, line 64 to col. 3, line 62].

11. The aforementioned claim 5, recites the following steps, inter alia, disclosed in Park:  
the optical disc is determined to be a positive tilted disc if the time  $T_2$  is greater than the time  $T_1$  and the optical disc is determined to be a negative tilted disc [see figs. 4B and 4C] if the time  $T_2$  is less than the time  $T_1$  [col. 7, lines 27-49 and col. 8, lines 5-28].

12. The aforementioned claim 9, recites the following elements/steps, inter alia, disclosed in Park:  
determining a tilt angle at a predetermined location of the optical disc where light is to be irradiated; and compensating for the tilt angle of the optical disc by adjusting a pickup angle of the pickup unit to correspond to the tilt angle at the predetermined location of the optical disc [col. 2, line 64 to col. 3, line 62].

13. As to claims 11-15, they are system claims corresponding to claims 1-5 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 1-5 respectively, above.

14. As to claim 19, it is rejected for the similar reasons set forth in the rejection of claim 9, above.

15. As to claim 21, it is rejected for the similar reasons set forth in the rejection of claim 1, above.

NOTE: Storing programs is well known in the art does not constitute patentable differentiation as such. Also more importantly the preamble does breath life into the claim.

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16. As to claim 24, it is rejected for the similar reasons set forth in the rejection of claim 1, above.

17. Claims 6-8 are rejected under 35 U.S.C. § 102(e) as being anticipated by Park et al., US. Patent Application Publication 2002/0060964 A1 (hereafter Park-964).

As to claim 6, Park-964 discloses the invention as claimed [see Figs. 1], comprising steps of:

restricting a maximum reproduction speed to a predetermined reproduction speed when data recorded on the optical disc is being reproduced [paragraphs 26, 57 and 84].

18. The aforementioned claim 7, recites the following steps, inter alia, disclosed in Park-964:

the predetermined reproduction speed is uniform regardless of a tilt degree of the optical disc [paragraphs 26, 57 and 84].

19. The aforementioned claim 8, recites the following steps, inter alia, disclosed in Park:

the predetermined reproduction speed is determined based upon the tilt degree indicating value T [paragraphs 26, 57, 72-84].

### **Claim Rejections - 35 U.S.C. § 103**

20. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18, 20, and 22-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Park as applied to claim 11-15 above in view of Park-964.

As to claim 16, Park all of the above elements, including all of the above elements. Park does not specifically disclose that control units restrict reproduction speed and that the speed is uniform or is a function of tilt.

However, it is well known in the art that speed is function of location and two type of speeds are generally used in control such as CAV and CLV. Also more importantly Park-964 clearly discloses:

the control unit restricts a maximum reproduction speed to a predetermined reproduction speed [paragraphs 26, 57, & 84].

Both Park and Park-964 are interested in improving the tilt mechanism in an optical disk device. Both show tilt mechanism with sensors and related hardware including tilt motors and focus related timing.

One of ordinary skill in the art at the time of invention would have realized that the tilt of different regions may require multiple VFO areas. However the proper tilt cannot be detected in case the area does not have the synchronization information.

Therefore, it would have been obvious to have used a speed adjuster which keeps constant speed [irrespective of the tilt] in the system of Park as taught by Park-964 because one would be motivated to reduce noise in the system of Park-964 and provide better signal controls and improve quality of the signal even when head area for a reference clock is not provided [paragraph 19; Park-964].

21. The aforementioned claim 17, recites the following steps, inter alia, disclosed in Park-964:

the predetermined reproduction speed is uniform regardless of a tilt degree of the optical disc [paragraphs 26, 57 and 84].

22. The aforementioned claim 18, recites the following steps, inter alia, disclosed in Park:  
the predetermined reproduction speed is determined based upon the tilt degree indicating value T [paragraphs 26, 57, 72-84].



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23. The aforementioned claim 20, recites the following steps, inter alia, disclosed in Park-964:

positions the pickup unit at a plurality of locations of the optical disc; radiates light on the optical disc at each of the plurality of locations; rotates the pickup unit through a plurality of pickup angles to detect a jitter signal that corresponds to each pickup angle; determines the pickup angle at each of the plurality of locations at which a value of the jitter signal has a minimum value; and when reproducing data, adjusts the pickup angle based upon a current location of the pickup unit and the pickup angle at which the smallest jitter signal was detected while proximate to the current location. when the predetermined location on which light is to be irradiated is between an n-th location and a (n+1)-th location (where n is an integer greater than 1 and less than N), determines the tilt angle of the optical disc as the pickup angle of the pickup unit determined at the n-th location [paragraphs 22, 26-27, 52, 57, 65 and 82-84].

24. As to claim 22, it is rejected for the similar reasons set forth in the rejection of claims 21 and 20, above.

25. As to claim 23, it is rejected for the similar reasons set forth in the rejection of claim 16, above.

26. A search based on the best understanding of the claims has been made to find the most pertinent art, but no statement about invention will be appropriate at this time regarding the allowableness of claims 10 and no art rejection will be made in this office action regarding the claims 10, due to the speculation required to interpret the claims because of their indefiniteness under 35 U.S.C. 112, 1st and 2nd paragraphs as noted above (see In re Steele, 134 USPQ 292).

#### **Other prior art cited**

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) Shimamoto et al. (US. Patent 6754145).
- b) Hayashi et al. (US. patent 6363039).
- c) Satoh (US. patent 6963462).

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**Contact information**

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.



Gautam R. Patel  
Primary Examiner  
Group Art Unit 2627

August 21, 2006